REMARKS

Claims 1-6 and 8 are currently pending in the application. By this amendment, claim 1 is amended for readability and to ensure consistent use of claim terminology, claim 8 is amended for grammar and readability, certain features previously recited in claim 7 are incorporated into independent claim 5, and, accordingly, claim 7 is cancelled without prejudice or disclaimer. In addition to the claim amendments, certain paragraphs of the specification are amended to rectify obvious grammatical errors. Finally, drawing figures 1 and 2 are amended to include the descriptive legend "RELATED ART." No new matter is added. Reconsideration and allowance of this application in view of the above amendments and the following remarks are respectfully requested.

Response to Comments on Information Disclosure Statement

Applicants appreciate the Examiner's comments with respect to U.S. Patent No. 5,895,936, which is mentioned in the background section of the specification. An Information Disclosure Statement is attached so that that reference may properly be made of record in this application. The requisite fee for filing the Information Disclosure Statement after the first Office Action is enclosed in the form of a check or, if not, may be charged to our Deposit Account.

Response to Comments on the Declaration

Applicants appreciate the Examiner's comments with respect to the Declaration and note that the residence of each inventor was captured properly by the U.S. Patent and Trademark Office, as evidenced by the official filing receipt.

Objection to Drawings

Applicants appreciate the Examiner's indication that the drawings filed on October 3, 2002 are acceptable.

Figures 1 and 2 were objected to as lacking an indication that the subject matter they depict is related art, rather than portions of the claimed invention. Applicants have amended those figures to include the legend "RELATED ART." Accordingly, Applicants respectfully submit that the objection has been overcome and respectfully request that it be withdrawn.

With respect to figures 3 and 4, the Office Action states that those figures are objected to "because reference character '109b' and '109c' has [*sic*] been used to designate both a contact hole and an electrode." In response, Applicants respectfully submit that the Examiner has failed to identify any particular place in the specification at which those two reference numerals are allegedly misused; therefore, Applicants cannot respond with any particularity.

Moreover, in general, Applicants respectfully disagree with the Examiner's assertion that the two reference numerals have been misused. On the contrary, Applicants respectfully submit that reference numerals 109b and 109c are used consistently throughout the specification to refer to particular structures. Therefore, Applicants respectfully request that the objection to figures 3 and 4 be withdrawn. However, if the Examiner should choose not to withdraw the objection, then Applicants respectfully request that the Examiner particularly point out instances in which the two reference numerals are allegedly used inconsistently, so that Applicants can respond with the same particularity.

35 U.S.C. §102 Rejection

Claims 5 and 6 were rejected under 35 U.S.C. §102(e) as allegedly being anticipated by U. S. Patent No. 6,399,962 issued to Kim. This rejection is respectfully traversed.

In order to anticipate a claim under 35 U.S.C. § 102, a reference must disclose each and every feature of that claim. Claim 5 recites a "method for manufacturing a switching device of an X-ray sensor" which comprises, *inter alia*, "forming a first protecting insulation layer which

covers [a] TFT and a ground wire" and "patterning storage capacity electrodes connected to the ground wire on the first protecting insulation layer such that at least a portion of the storage capacity electrodes shield the TFT." Applicants respectfully submit that Kim does not disclose those features.

Instead, Kim discloses a conventional construction in which the electrodes on the first insulation layer do not shield the TFT, as is apparent from figure 5f of Kim, a fact the Examiner admits later in the Office Action, stating that "no portion of the storage capacity electrodes are seen in the switching device of Kim to shield the TFT," (Office Action at page 5, point 12).

Because Kim does not disclose at least the above features of claim 5, Applicants respectfully submit that Kim does not anticipate claim 5 or claim 6, which depends from claim 5. Accordingly, Applicants respectfully request that the rejection of claims 5 and 6 be withdrawn.

35 U.S.C. §103 Rejections

Claim 8 was rejected under 35 U.S.C. §103(a) as allegedly being obvious over U. S. Patent No. 6,399,962 issued to Kim. Additionally, claims 1, 4, and 7 were rejected under 35 U.S.C. § 103(a) as allegedly being obvious over Kim in view of JP-A-61-3118 (hereinafter "JP '118"). This rejection is technically moot with respect to cancelled claim 7, but Applicants will respond with respect to pending claims 1 and 4. These rejections are respectfully traversed.

In order for a prior art reference or combination of references to render a claim obvious, three basic criteria must be met. First, there must be some suggestion or motivation to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the reference or references, when combined, must disclose or suggest all of the claim limitations. The motivation to modify the prior art and the reasonable expectation of success must both be found in the prior art and not based upon a patent applicant's disclosure.

Claim 8 recites that "the first protecting insulation layer and the second protecting insulation layer are formed of an inorganic insulation." Applicants note that claim 8 depends from claim 5 and incorporates by reference all of the features of that claim. As Applicants noted

above, Kim does not disclose all of the features of claim 5, and Applicants also submit that Kim does not suggest those features either. Therefore, regardless of what Kim may or may not disclose or suggest with respect to the composition of insulating layers, Kim cannot render claim 8 obvious because it does not disclose or suggest each and every feature of claim 8.

Furthermore, Applicants disagree with the Examiner's characterization of the disclosures of Kim. Kim specifically states at column 6, line 55 that "organic BCB...is beneficially used for the second insulation film 216." Moreover, Applicants note that the passage of Kim which assertedly discloses the equivalence of organic and inorganic materials for first and second insulation layers, column 2, lines 41-46, is actually a description of a gate insulating film, an insulating layer different from the "second insulation film 216." Applicants respectfully submit that the disclosure of column 2, lines 41-46, does not relate to either of the insulation layers 216 and 226 of Kim.

Accordingly, Applicants respectfully request that the rejection of claim 8 be withdrawn.

With respect to the rejection of claims 1, 4, and 7, Applicants note that the Examiner has not supplied a translation of JP '118, and assume that the Examiner is relying on the drawing figures and the English-language abstract of JP '118 in making the rejection. Therefore, Applicants will respond based only on the drawing figures and abstract and reserve the right to supplement or modify their arguments should a full translation become available.

As was noted above with respect to the rejection under §102, in making this rejection, the Examiner admits that Kim does not disclose the feature of claim 1 that "at least one portion of the storage capacity electrodes shield[s] the TFT." The Examiner asserts that JP '118 discloses that feature (referring to reference numeral 9 in Figures 3A and 3B of JP '118), and further asserts that it would have been obvious to combine the two references. Applicants respectfully disagree.

The structure identified by reference numeral 9 in JP '118 is actually identified as a "light shielding metal." Applicants submit that that "light shielding metal" is not a "storage capacity electrode[] connected to a ground wire" as recited in claim 1. Rather, it appears that the "light

shielding metal" is either entirely unconnected, or, in another embodiment, is connected directly to the TFT gate through a hole in the insulating layer that covers the TFT.

In view of the above, Applicants submit that the Kim switch and the JP '118 transistor substrate are clearly different. Moreover, neither reference identifies or suggests any motivation for including a "light shielding metal" in the Kim switch. Accordingly, Applicants respectfully submit that there would have been no motivation to include a "light shielding metal" as taught in JP '118 in the Kim switch. However, even if such a modification to Kim were to be made, the resulting combination would not include all of the features of claim 1, because, as noted above, a "light shielding layer" is clearly not the "storage capacity electrode[] connected to a ground wire" recited in claim 1. Therefore, Applicants submit that claim 1 and the claims that depend from it are not rendered obvious by the proposed combination of Kim and JP '118, and respectfully request that the rejection be withdrawn.

CONCLUSION

In view of the foregoing amendments and remarks, Applicants submit that all of the claims are patentably distinct from the cited references and are in condition for allowance. The Examiner is respectfully requested to pass the above application to issue. The Examiner is invited to contact the undersigned at the telephone number listed below, if needed.

Applicants hereby make a written conditional petition for extension of time, if required. Please charge any deficiencies in fees and credit any overpayment of fees to Attorney's Deposit Account No. 23-1951.

Respectfully submitted,

Andrew M. Calderon
Registration No. 38,093

Andrew McAleavey
Registration No. 50,535

McGuireWoods, LLP
Suite 1800
1750 Tysons Blvd.
McLean, VA 22102
(703) 712-5129